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INSTRUCTIONAL METHODS, GERMAN.

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THE CONSTRUCTION, REVISION, AND STANDARDIZATION OF INSTRUCTIONAL MATERIAL IN GERMAN IS DISCUSSED IN THIS REPORT AFTER CONSIDERATION IS GIVEN TO THE METHODS AND GOALS CONNECTED WITH THE PRODUCTION OF LANGUAGE MATERIAL. THE ROLE OF RESEARCHERS, AUTHORS, PUBLISHERS, TEACHERS, AND STUDENTS IN DEVELOPING COURSE MATERIAL IS OUTLINED. DESCRIPTIONS ARE GIVEN OF EXPERIMENTS THAT WERE CONDUCTED TO DEAL WITH CONTROVERSIES OVER (1) TEXTBOOK USE, (2) AUDIO-ACTIVE-COMPARE LANGUAGE LABORATORY USE, (3) THE NEED FOR ONE- OR TWO-LANGUAGE EXPLANATIONS OF WORDS, AND (4) STUDENT ATTITUDES TOWARDS DIFFERENT CLASSROOM METHODS. FIVE GOAL ANALYSES IN THE PLANNING STAGE AND WORK METHODS TO BE INTEGRATED INTO THE COURSE MATERIAL ARE ALSO DESCRIBED. THIS DOCUMENT APPEARED AS "SCHOOL RESEARCH NEWSLETTER (STOCKHOLM)," NUMBER 3, 1967. (AF)

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Conducted by: Institute of Educational Psychology, School of Education, Malmö

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Investigation leader: " " " "

A. MODEL

In educational research and among people directly responsible for education, interest is great just now in the production of instructional material of a new type; new primarily because the material is controlled in respect of its effects. The work of production is so extensive, however, that it is often advisable to introduce a basic research phase before production is started. The discussion of the process in the following will be based on the figure on page 2. Although the model was designed for a special project it may be of general interest. The four principal stages in the process illustrated in the figure will be used as headings in the following.

Basic analyses

Conditions

Studies under this heading should embrace conditions for the students as well as for the material and the equipment. Instruction is determined by the limits fixed by the ability of the students. Interest in the language project is concentrated on verbal intelligence. Also perception and motor aptitudes should be studied. Are the students able to grasp the sounds of the language? Can they reproduce these sounds? By relatively extensive testing of the students at the end of the period which the instructional material is intended to cover,

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the students' ability to benefit by instruction can also be tested. When we are concerned with demands on material and equipment, much interest has been shown recently in the quality and reliability of language laboratories. The arrows pointing to both "methods" and "goals" indicate partly that these contribute to determine which of the premises are most important to study, and partly that they themselves are dependent of the results of the analyses of conditions.

Methods

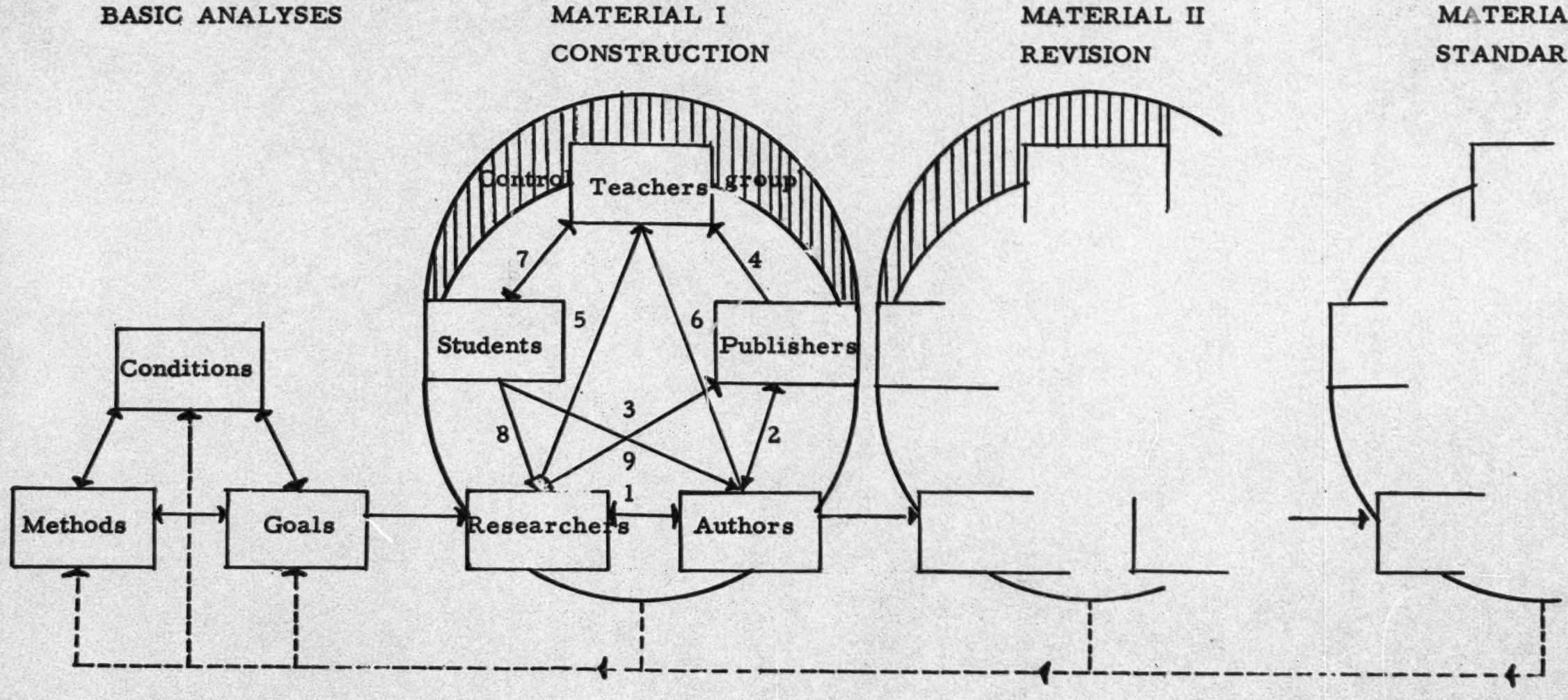
If the production of material is to be sufficiently consistent, it is very important in many respects to test different methods empirically. Not until direct studies have been made - often requiring experimental and control group procedure - can that which will survive changes in fashions in methods be recognized. It is often in the debate of problems of method that the great controversial questions are formulated. In language teaching, these questions are now concerned with, among other things, whether texts are to be used in the early teaching of beginners; whether rules and summaries of grammar are useful; whether the native language helps or hinders the learning of a foreign language. The results of experiments in teaching in this phase often provide food for thought. Sometimes it is found that generally accepted principles are open to question, sometimes that lines of demarcation between different methods have been drawn too strictly, for different methods lead to similar results.

The connecting arrows to and from "goals" are to indicate that experiments with methods will lead to changes in the formulation of goals, and also that new goals for instruction will make new methods desirable.

Goals

The extent of the goal analyses may, in view of the magnitude of the project, vary greatly. When "language pills" are to be produced

A MODEL FOR THE PRODUCTION OF INSTRUCTIONAL MATERIAL



with these results.

Authors

This heading, too, is plural. The authors are teachers of the subject with which the project is concerned. It is probably essential that the authors, by their own activities as teachers, are well-acquainted with the stage and the students. Even though continuous revision will eventually make the material suitable regarding degree of difficulty, an experienced teacher can, from the very beginning, make demands both realistic and reasonable.

Connecting arrow 1, pointing in two directions, stresses the intimate colloboration that must be established between researchers and authors. As a matter of fact, this collaboration is probably one of the unique features of the material-producing project. Collaboration has occurred sporadically earlier in the production of textbooks, but now it has been systematised. It also implies, when projects, as is usually the case, are assigned to schools of education, that institutes of education and method create colloboration that was originally intended to take place at schools of education, but which in fact has often not been realised. Researchers and authors may be described as the producers in the project.

Publishers

The first versions of instructional material is frequently published by typewriting agencies, while more advanced versions are published by regular publishing houses. In both cases, the research-author group must keep in touch with the publishers in problems pertaining to editing. These contacts are shown by arrows 2 and 3. Cooperation between these two is more important in the production of instructional material than in the publication of ordinary textbooks. Instructional material for languages will include not only books but also programmed material, tapes and test series.

goal analysis often comprises only the author's own deliberations, which, naturally, are subjective. The analysis may be more detailed if an expert group is engaged. Even the formulation of goals by an expert group may be debatable, however, if, for example, the experts are chosen from one school of methods only. Analyses of textbooks may perhaps give more information. Although authors of textbooks must take into account methodological trends, they are independent in relation to each other and can therefore give a many-sided survey of the problems of method. The most important analyses are those concerned with the subject - the language itself - and the students' progress in their studies of the subject and the need for knowledge of the subject outside the school. The necessary research according to this line of thought implies studies of frequencies in the foreign language (which may have been made already), studies of students' errors in spontaneous use of the language, tolerance for errors when persons for whom the language is their native tongue are listening, the need for linguistic skill in the students' later working life and spare time activities.

When the basic analyses have been completed preliminarily, the project can be devoted to the construction of the first version of the instructional material. It seems extremely likely, however, that teaching cannot be based definitively on such analyses. Instead, it must be assumed that work on instructional material will create demands for new analyses.

Material I: Construction

Researchers

The word "researchers" is in the plural, for it refers to a research team, comprising researchers trained in pedagogics and psychometry, researchers concerned with the subject and research assistants. The task of this group will be to express the results of the basic research - their own and others' - in such a way that the methodological arrangement of the instructional material can be made to agree

Teachers

It is an advantage if the group of teachers in the construction phase is rather small. At this stage detailed criticism of the teaching material must be obtained, and frequent conferences with a limited number of participants are probably more profitable than large meetings. The restriction implies, however, a certain risk, for a research-author group may tend to choose colleagues with the same views as they themselves have, and criticism may be less strict than otherwise. Arrow 4, from publisher to teacher, points in one direction only, while arrows 5 and 6 link up the producers. The returning information from the teachers will be given not only spontaneously at conferences and in informal conversations, but the researchers must deliberately seek this information by, for example, asking the teachers to return their lesson sheets with comments, or by asking them to reply to questionnaires designed specially for this purpose.

Students

According to arrow 7, the students obtain material from their teachers. They also give the teacher their views on the material. This means that some information about the students does not go direct to the producers, but is passed on by way of the teachers. More important and more objective, however, is the information which, according to arrows 8 and 9, is given to researchers and authors, who must be very active to obtain information about the students. In this advantage should be taken of all the possibilities of pedagogical measurement, with the construction of series of diagnostic tests, summarising achievement and retention measurements and attitude formulae around the methods of work used in the project. It would, of course, be a great advantage if the results of student measurements could be compared with the results obtained with a control group (shaded in the figure) with other material even though, in the present situation, it is not easy to decide what type of instruction is to be regarded as representing this control. In studies of students' achievements the researchers should scrutinize completely the whole of the test material for a small group of

students. Such scrutiny means, in the first place, that each item is analysed with reference to degree of difficulty. This analysis is of great interest in itself, but still more in relation to the diagnostic tests. It may sometimes give rise to quite radical proposals of changes in both the content of instruction and in the design of methods.

When teacher and student reactions have been collected in the construction phase, the time-consuming data processing, which makes the work of revision meaningful, is begun. Processing is mainly the province of the research group, but the authors are kept informed by the group, so that the necessary alterations can be made as soon as possible.

Materials II and III: Revision and standardisation

No important changes in the work should be necessary in the revision phase. When they occur for practical-administrative reasons, they are partly to the good, for new points of view are expressed on the work of production. In the standardisation phase, which also implies introduction into practical school situations not of an experimental character, on the other hand, the teacher and student groups must, on principle, be larger. The publisher will probably have to have commercial publishing resources at his disposal.

The dotted arrows at the bottom of the figure indicate the feedback hinted at earlier, which means that the production of instructional material may stimulate research.

B. ANALYSES OF CONDITIONS

Within the German project, the following were studied:

1. Sound reproduction in the language laboratory. This proved to be, on the whole, satisfactory, but had some shortcomings, which caused us to recommend precautions in the purchase and installation of laboratory apparatus.

2. Students' auditory ability. This was studied by the help of a specially constructed test which takes into account anticipated difficulties encountered by Swedish students learning German. The auditory discrimination ability proved to be satisfactory for practically all the sounds that are of importance in the study of German.

3. Students' intelligence. These measurements were used in the descriptions of groups of students in experiments on methods.

4. Students' previous knowledge of German. By the help of questionnaires and tests, the students' acquaintance with and knowledge of German at the beginning of instruction were measured. With the exception of a few students, often of German extraction, beginners had very little knowledge. (The above result was reported in Lindell, E. (Ed.), Språkproject "Tyska 7". Läsåret 1965-66: II. Elevförutsättningar och teknisk utrustning. /The Language Project "German 7". School year 1965-66: Pupil qualifications and technical aids/. Pedagogisk-psykologiska problem, Malmö School of Education, No. 37. The series Pedagogisk-psykologiska problem will be mentioned frequently in the following, and is then abbreviated PPP.)

5. Students' pronunciation of German phenomes. The greatest problems proved to appear in cases where German is written in the same way as Swedish, but requires another pronunciation: ʃ sound in "st" and "sp" spellings, and, above all, voiced "s". (Kitzing, K., Några malmöelevers uttal av tyska spiranter och affrikator (Some Malmö students' pronunciation of German spirants and affricates), PPP No. 49.)

C. EXPERIMENTS AND METHODS

As mentioned in the introduction, extremely controversial questions may easily arise in discussions of methods. The following experiments have been made in the project in connexion with the current debate.

With or without text?

In a short teaching experiment of ten lessons in the very beginning of the study of the foreign language it was impossible to discover any important differences in tests of vocabulary and grammar between

students instructed with and students instructed without texts. This result was also valid for tests of pronunciation, which perhaps runs the greatest risk of being harmed by the text. The small differences observed were rather in favour of the text group. As far as written German was concerned, the text group was noticeably better. (Lindell, E. (Ed.), Med eller utan text? Empirisk belysning av en stridsfråga beträffande nybörjarundervisning i främmande språk (With or without text? Empirical elucidation of a controversial matter in teaching beginners in a foreign language) PPP No. 41.)

Forms of work in the language laboratory

Several possibilities of work are available in a language laboratory of an audio-active-comparative type. Four were tested:

1. Listening and recording, of which the first phase is at least superficially passive.

2. Recording responses directly the first time the stimuli were presented.

3. Recording + repetition, a procedure implying that the students, after their first attempts at answering ran the tapes back and gave new responses in the next recording.

4. Recording + play-back, when the students also ran the tapes back, but then listened to their own responses and altered their first responses when they were incorrect.

No certain differences between the methods could be demonstrated. More important was that the progress made in the language laboratory was rather small. The items were arranged as one-language dialogues in which the various forms of the present tense on "sein" were to be learned. The students found it difficult in a subsequent test to use the different forms correctly.

A grammatical paradigm

This experiment was a direct continuation of the previous one. As the results were unsatisfactory, the students were given a grammat-

ical table of the present tense forms, which were also explained in Swedish. Progress was greater after this survey than after the previous testing period in the language laboratory. (The two experiments, which were concerned with the same linguistic material, have been reported in Lindell, E. (Ed.), Två språkpedagogiska metodförsök: I. Arbetsformer i språklaboratorium. II. Försök med en gammal paradigm (Two method experiments in language teaching: I. Forms of work in a language laboratory. II. Experiment with a old paradigm) PPP No. 44.)

One- or two-language explanations of words

An experiment was made with tests provided with different kinds of glossaries. A number of classes, all in the first form of the senior secondary school, were given one-language glossaries in which new words were explained by synonyms or paraphrases in German, while others were given two-language glossaries, in which translations into Swedish were given. The students were allowed to study the text and explanations during one lesson. At the following lesson they were given, without warning, the same text with the words studied omitted. The students' task was to fill in the missing words. The two-language explanations gave better results by far. (Löfgren, H. (Ed.), Försök med en- och tvåspråkiga ordlistor (Experiments with one- and two-language glossaries) PPP No. 29.)

Lesson models with combined methods

A series of experiments with traditional items in instruction in German was made for the purpose of testing combinations of examples introduced, grammatical surveys and final practice. The items were: accusative case of personal pronouns, accusative of nouns, dative and genitive. All the experiments gave very good results.

A few differential investigations were included in these experiments with methods. It was found that no differences could be discerned between classes taught in the audio-active laboratory and classes in the audio-active-comparative, a result which has certain economic

implications. It may be objected, however, that the subject matter in the lessons was so loaded that possibilities for individual training of skill were restricted. It was also observed that classes taught in classrooms with only a tape recorder on the teacher's desk achieved better results than classes which had used the language laboratory. Finally, we found that written programming gave better results than exactly the same exercises in the language laboratory when the material consisted of the rather formal grammatical item on the genitive.

The following reports give accounts of the experiments in teaching:
Lindell, E. (Ed.), Kombination av språklaboratorieövningar och klassrumsundervisning (Combination of language laboratory exercises and classroom instruction) PPP No. 46.
Lindell, E. (Ed.), Kombination av språklaboratorieövningar och klassrumsundervisning, ett parallellförsök (Combination of language laboratory exercises and classroom instruction, a parallel experiment) PPP No. 50.
Löfgren, H. (Ed.), Kombination av klassrumsundervisning och övningar av språklaboratorietyp: Exempel på första utprövning av en undervisningsenhet (Combination of classroom instruction and exercises of a language laboratory type: Examples of the first testing of an instruction unit) PPP No. 52.
Lindell, E. (Ed.), Ett försök med självinstruerande material i språklaboratorium och i skriftlig programmering (An experiment with selfinstructional material in the language laboratory and in written programming) PPP No. 53.)

Methods of work during language lessons

When instructional material is being designed, students' attitudes to different methods of work must be taken into account. The students were allowed to give their views on some twenty different activities by means of a questionnaire. The activities were rated according to how "attractive" they were to the students. Most popular were a couple of informal activities - writing letters and acting in the foreign langauage, but work in the laboratory

was also ranked highly. Least attractive were reading in unison and learning words. We are planning an extension of these investigations by allowing the students to give their views on the value of various activities. Further, methods of work should be related to personality tests to discover relationship between, for example, social adjustment and attitude to methods of work. Finally, factor analysis is planned. (The report on methods of work will be published shortly in the series PPP.)

Final test for grade 7

In connexion with the analyses of textbooks, mentioned earlier, a series of tests was constructed to measure the level of achievement at the end of the first year´ s lessons. A number of grammatical phenomena was tested in writing, and listening and speaking tests were administered. The battery has been factor analysed and factors isolated for knowledge of words, grammar and listening. Test constructive processing of the material is now under way.

Retention of knowledge after summer holidays

Parts of the test battery used as final test in grade 7 were administered again during the first lesson in grade 8 when the students had German. The results are under study.

D. GOALS OF INSTRUCTION IN LANGUAGE

Goal analyses of five aspects are planned: Frequencies in the language concerned, students´ difficulties with this language, the consumers´ - industry, commerce and administration - need of the language, studies of tolerance for incorrect use by those speaking the language as their native tongue, and scrutiny of the Swedish textbooks to obtain concentrated knowledge of what experience in teaching has led up to. These goal analyses will be described briefly in the following.

Frequencies in the language

Investigations made hitherto have been concerned mainly with the frequencies of single words. At present studies of the frequencies of structures are the focus of interest. Let us consider a couple of problems that we have been compelled to consider in our production of material. Is the perfect tense used in preference to the imperfect for the past? From the aspect of methods it would be an advantage if this question could be answered in the affirmative, for the perfect tense is easier to learn, since it is constructed as present tense + a form of verb than can, at least in the beginning, be treated as an adjective. Is the passive voice used to any great extent? If not, learning the passive voice can be postponed until a higher class. To what extent do constructions with prepositions replace the genitive? If this occurs frequently, there is good reason to pay more attention than previously to preposition constructions.

One of the lecturers on methods in German teaching at the School of Education, Gottfried Grunewald, has made a frequency study of a contrastive character within the project. It was concerned with contrasts between Swedish and German in respect of word-order. The material on which it was based was a so-called "Spiegelgespräche", i.e. an interview in the German periodical Der Spiegel. This material was chosen because the language was colloquial, for it was based on taped material from the interview. It was very interesting to find that almost exactly half of the German sentences differed from their Swedish equivalents in word-order. (Grunewald's results will be reported in PPP in the autumn of 1967.)

It is possible that frequency studies of this kind will not alter in any essential points the total school course in German. On the other hand, it is quite possible that important changes in the distribution of time for various items, and in the position of these items in the curriculum may be recommended.

Scrutiny of students' errors

There may be phenomena in a language which, according to the previous section, show very high frequencies but which nevertheless do not need much practice, because they cause little or no difficulty. It is most probable that this is true of constructions that are similar in Swedish and German.

A study of the frequency of errors was made recently by Bertil Engh at the Malmö School of Education. The material consisted of students' written reproductions of texts read. The students were in their first year at the senior secondary school. Misspellings dominated the errors, but in most cases they were not serious enough to jeopardize understanding. Of course, they would still have a disturbing effect in a letter to a German reader. The following types of error were dominant:

Wrong case efter preposition.
Wrong genus of nouns.
Lack of congruence subject-predicate (most often a plural subject had its predicate in the singular).
Accusative object in wrong case, most usually nominative: Die Frauen liebten der Mann.
Complement of predicate declined: Seine Augen sind braune.

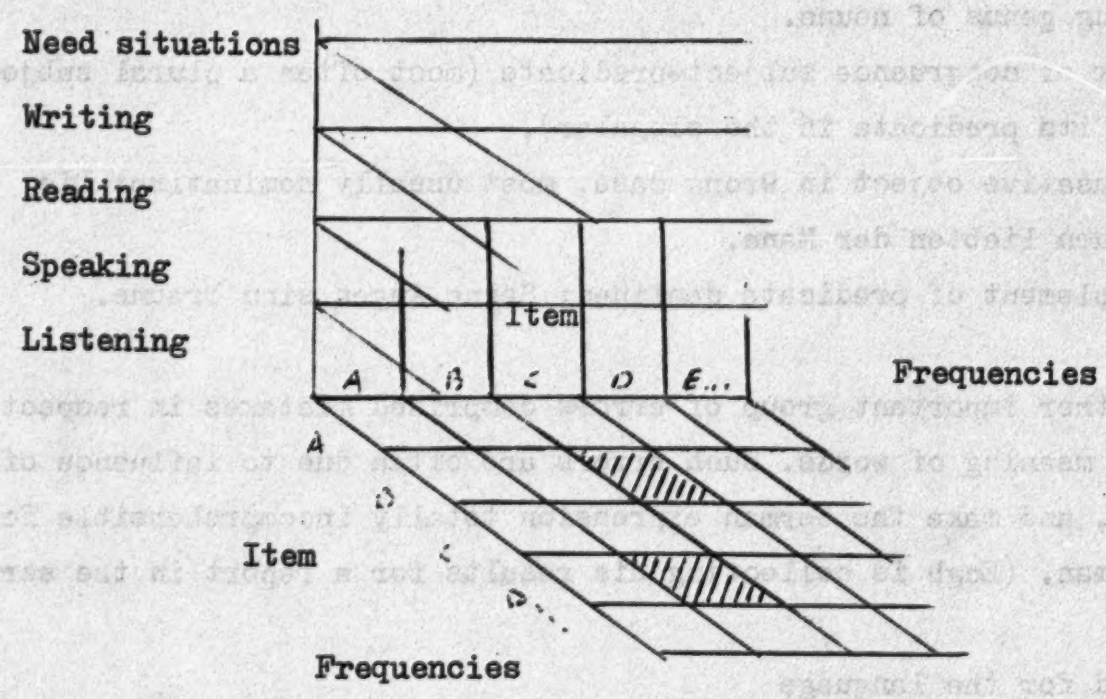
Another important group of errors comprised mistakes in respect of the meaning of words. Such errors are often due to influence of Swedish, and make the German expression totally incomprehensible for a German. (Engh is collecting his results for a report in the series PPP.)

Need for the language

Although language training in school must be carried on with material that interests the students, the courses must be designed so that they are useful in the economic life of the country after the students have left school. At present there is a certain rivalry between the stipulations of the curriculum for the comprehensive school and the demands made by those receiving the students when they leave school,

as was shown in a questionnaire study made on behalf of the Senior Secondary School Commission. The curriculum places the spoken language in the first place, while those receiving the students stress mostly the need to read texts in the foreign language. To investigate this problem further, we are planning to apply for help from industrial and commercial enterprises and the administration to determine the relation between the four linguistical functions: speaking, listening, reading and writing. We should like to know, for example, how often German is needed in listening situations such as telephone conversations, tourist information, news broadcasts, interviews and debates, and in reading situations pertaining to different categories of literature, both "belles lettres" and technical literature.

A summing up of studies of the frequencies, errors and needs may be illustrated by the following diagram:



The axes show only division into categories, thus no kind of rising numerical values is given from the centre outwards. Some fields are shaded; they indicate that both error and frequency studies suggest that these phenomena must be practised. The need axis gives a third dimension to the goal analyses: in what situations should the phenomena be practised?

Tolerance

While the diagram above gives rather exact information about what the school must work with, the tolerance study may, to a certain extent, eradicate the definite demands by showing that listeners and readers understand the message, even though it is wrongly constructed. In our study of errors, we found cases where the construction was not fully correct, but still adequate as a communication. Indeed, the criticism often passed upen language teaching in Sweden is that it strives for perfection at the expense of production. It is very likely that the people with whom we speak would be happier if we said more, and if we made more mistakes.

There is no doubt at all that tolerance is greatest in respect of grammatical errors, i.e. such mistakes mean very little for understanding. If a speaker wishing to say "Darf ich Ihnen eine Tasse Kaffee anbieten?" says "ein" instead of "eine", it will have no effect on the understanding of the question, nor will such formally grave errors as "einer" or "eines" or the like. One the other hand, mistakes in choice of words may be dangerous.

Contents of textbooks

Analyses of textbooks have, for us, had the character of an interim solution of the problems which the analyses of goals have brought in focus, and which demand rather much work before they can be solved completely. Analyses of the contents of the books used most frequently have been made for grade 7 by Bertil Engh in Malmö, and for grade 8 by Erich Schwandt, Borgholm. In the long run, a comparison between the distribution of instruction time by textbook and an analysis of needs, independent of the textbooks, will be of great interest. (The analysis of textbooks used in grade 7 is described in Lindell, E. (Ed.), Språkprojektet "Tyska 7", school year 1965–66: I. Målen för undervisningen (Goals of instruction) PPP No. 35. Schwandt's analysis of the books used in the eighth grade will appear in the series PPP in the autumn of 1967.)

E. CONSTRUCTION OF MATERIAL

The construction of teaching material was begun after studies made during the academic year 1965–66 had given us guidance concerning the fundamental conditions of instruction in languages. During the year 1966–67, a first version of teaching material has been designed and tested.

A number of methods of work are to be integrated in the material. The following table is a theoretical model.

	Item						
Type of exercise	Def. article + noun	Indef. art. + noun	Diagnostic test	Present of sein	Diagnostic test	Uniting poss. pron.
Basic course	x	x		x		x
Grammar	x	x		x		x
Reading texts						x
Listening	x	x				
LL–exercises	x	x				
PT–material				x		x
Writing exercises				x		

A cross indicates that the type of practise occurs. The location of the type of exercise under the item is due to the character of the material. It is, for example, suitable for the students, by listening and by making their own exercises in the LL (language laboratory), to become acquainted with the phoneme content of German during the first lessons. On the other hand, meaningful reading texts can hardly be used. One item, "present tense of 'sein'", which makes small demands on auditory apprehension and pronunciation, can instead be practised in PT and written exercises. When the possessive pronouns have become part of the vocabulary, reading exercises may be combined.

If the material is used for intensification individualisation, it means that all students go through the basic course, and then, during the time up to the diagnostic test, the students, according to their ability and interests, complete exercises. The class is then kept together for certain common introductions and endings. Speed individualisation implies that students, according to the ability, practise with the material more or less until they consider themselves ready for the diagnostic test. If they [illegible], such material as has not been studied may be used as supplementary exercises.

The procedure during the academic year may be described with reference to the general model on page 2. The permanent group of researchers consisted of the leader of the project and assistants. One of the assistants (Löfgren) assisted in the planning, distribution and calculations, as well as performing independent research. Another (Kerstin Nauclér) was engaged in the demanding analyses of material from the language laboratory exercises. Other experts were engaged at times, mainly linguists. During the academic year 1967-68, the project will engage Dr. Jivén and Inger Larsson part-time; as research assistant, Dr. Jivén has been concerned with problems of languange teaching, while Inger Larsson is a sociologist. These two will concentrate on the consumer investigations mentioned in the analyses of goals.

The author in the project is lecturer on methods at the Malmö School of Education, Bertil Ekholm-Erb. He is very experienced in textbook production. The first version was written after conferences with Ekholm and the research group. Data received were reported to Ekholm, who revised the first edition during the summer of 1967.

No special publisher was employed in the project during the academic year 1966-67, but the material was produced with the help of personnel remunerated by the project. Negotiations will be opened with publishing houses during the academic year 1967-68.

Collaborating teachers have been employed at the school attached to the School of Education and at schools in Malmö. As the material was typed, the teachers were called to conferences at which experienced gained from material already tried out was discussed. The critical points of view were taken into account in the revision.

Participating students in this intensive scrutiny were taken from six classes, of which three worked in the language laboratory. The students' achievements were analysed in the whole teaching material packet. A number of diagnostic tests were given. The students were allowed to give their attitudes to different methods of work. The data collected in this way have not yet been processed, and no reports have been published.

F. REVISION AND STANDARDISATION

The work of revision will be performed during the academic year 1967-68. The standardisation phase will be begun when the material has been published in a large enough edition by the publishers.

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